

I claim:

1. A cushion backed carpet tile suitable for use in adhesive-free installations, said carpet tile
5 comprising:
an upper textile surface; and
a layer of foam material, said layer of foam material being functionally secured beneath said upper textile surface, and said layer of foam material being adapted
10 to provide cushioning to a force pressing against said upper textile surface, said carpet tile having a plurality of corners wherein each of said corners has a cup of about $3/16$ " or less and a curl of about $1/16$ " or less.
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2. The cushion backed carpet tile according to Claim 1, wherein each of said corners has a cup of about $2/16$ " or less and a curl of about $1/32$ " or less.
- 20 3. The cushion backed carpet tile of claim 1 wherein each of said corners has a curl of about $1/32$ " or less.
4. The cushion backed carpet tile of claim 1 wherein said
25 carpet tile has a thickness of about 0.2 to about 0.55".
5. The cushion backed carpet tile of claim 2 wherein each of said corners has a curl of about $1/32$ " or less.

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6. The cushion backed carpet tile of claim 1 wherein said foam material has a thickness of about 0.10 to about 0.25".
- 5 7. The cushion backed carpet tile of claim 1 wherein said foam material has a thickness of about 0.20".
8. The cushion backed carpet tile of claim 1 wherein said foam material is polyurethane.
- 10 9. The cushion backed carpet tile of claim 1 further comprising a backing layer secured to said foam material opposite to said upper textile surface.
- 15 10. The cushion backed carpet tile of claim 9 wherein said backing layer comprises about 40-100% by weight polyester and about 0-60% by weight polypropylene.
- 20 11. The cushion backed carpet tile of claim 10 wherein said backing layer comprises about 40 to about 80% by weight polyester and about 20 to about 60% by weight polypropylene.
- 25 12. The cushion backed carpet tile of claim 11 wherein said backing layer comprises about 50% polyester and about 50% polypropylene.
- 30 13. The cushion backed carpet tile of claim 9 wherein said backing layer is a felt layer.

14. The cushion backed carpet tile of claim 1 wherein said cushion backed carpet tile has a coefficient of sliding friction which is higher than its peel strength.
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15. The cushion backed carpet tile of claim 1 wherein said Upper textile surface is a pile fabric.
16. The cushion backed carpet tile of claim 1 wherein said
10 upper textile surface comprises a tufted or bonded pile fabric.
17. An adhesive free cushion backed carpet tile installation comprising:
15 a plurality of carpet tiles positioned in an abutting relationship relative to each other and substantially freely overlying a predetermined surface, wherein each of said carpet tiles has a plurality of corners, with said corners having a cup of about $3/16$ " or less and a
20 curl of about $1/16$ " or less.
18. The adhesive free cushion backed carpet tile installation according to Claim 17, wherein each of said corners has a cup of about $2/16$ " or less.
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19. The adhesive free cushion backed carpet tile installation of claim 17 wherein each of said corners has a curl of about $1/32$ " or less.
- 30 20. The adhesive free cushion back carpet tile installation of claim 17 wherein each of said carpet

tiles has a coefficient of sliding friction of which is higher than its peel strength.

21. A method of laying no adhesive cushion backed carpet
5 tile on to a surface, comprising the steps of:
 - a) reversibly securing at least one indicator carpet
tile to said surface with a securing device or
means;
 - b) placing a second carpet tile on said surface
10 wherein said second carpet tile and said
indicator carpet tile abut;
 - c) placing a third carpet tile on said surface
wherein said third carpet tile abuts at least one
of said indicator carpet tile and said second
15 carpet tile;
 - d) placing at least one subsequent carpet tile on
said surface wherein said subsequent carpet tile
abuts at least one of said indicator carpet tile,
said second carpet tile and said third carpet
20 tile;
 - e) removing said indicator carpet tile and removing
said securing device or means; and
 - f) replacing said indicator tile or a carpet tile in
a location vacated by said indicator carpet tile.
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22. The method of laying no adhesive cushion backed carpet
tile of claim 21 wherein said third carpet tile abuts
said second carpet tile.

23. The method of laying low adhesive cushion backed
carpet tile of claim 21 wherein said third carpet tile
abuts said indicator tile.
- 5 24. The method of laying low adhesive cushion backed
carpet tile of claim 21 wherein said subsequent carpet
tile abuts said indicator tile.
- 10 25. The method of laying low adhesive cushion backed
carpet tile of claim 21 wherein said subsequent carpet
tile abuts said second carpet tile.
- 15 26. The method of laying low adhesive cushion backed
carpet tile of claim 21 wherein said subsequent carpet
tile abuts said third carpet tile.
- 20 27. The method of laying low adhesive cushion backed
carpet tile of claim 21 wherein said subsequent carpet
tile abuts said indicator carpet tile and said third
carpet tile.
- 25 28. The method of laying low adhesive cushion backed
carpet tile of claim 21 wherein said indicator tile is
placed in substantially the center of the surface.
- 30 29. The method of laying low adhesive cushion backed
carpet tile of claim 21 further comprising the step of
repeating said step of placing additional subsequent
carpet tile until said surface is substantially
covered.

30. The method of laying no adhesive cushion backed carpet tile of claim 21 wherein each of said cushion backed carpet tile has a cup of about 3/16" or less and a curl of about 1/16" or less.

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31. The method of laying low adhesive cushion backed carpet tile of claim 21 further comprising the step of treating said surface to enhance the coefficient of friction thereof.

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32. A method of reversibly laying cushion backed carpet tile on a surface, comprising the steps of:

a) increasing the coefficient of friction of said surface;

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b) laying an indicator carpet tile on said surface;

c) placing a second carpet tile on said surface wherein said second carpet tile and said indicator carpet tile abut;

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d) placing a third carpet tile on said surface wherein said third carpet tile abuts at least one of a group consisting of said indicator carpet tile and said second carpet tile; and

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e) placing at least one subsequent carpet tile on said surface wherein said subsequent carpet tile abuts at least one of said indicator carpet tile, said second carpet tile and said third carpet tile.

33. A modular floor covering system for covering a floor wherein said modular floor covering system comprises a multiplicity of cushion backed carpet tiles wherein

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said cushion backed carpet tiles freely release from
said floor.

5 34. The modular floor covering system of claim 33 wherein
said cushion backed carpet tiles are inhibited from
lateral displacement.

10 35. The modular floor covering system of claim 34 wherein
said cushion backed carpet tiles comprise an upper
textile surface with yarn protruding from a topside
thereof;
a polyurethane cushion attached to a bottom side of
said upper textile surface; and
felt attached to said polyurethane cushion opposite to
15 said upper textile surface wherein said cushion backed
carpet comprises a plurality of corners and said
corners have a cup and about 3/16" or less and curl of
about 1/16" or less.

20 36. The modular floor covering system of claim 35 further
comprising a reinforcement layer between said upper
textile surface and said polyurethane cushion.

25 37. The modular floor covering system of claim 36 wherein
said reinforcement layer is fiberglass.

30 38. The modular floor covering system of claim 35 wherein
said upper textile surface comprises a yarn and a
primary backing.

39. The modular floor covering system of claim 38 wherein said cushion backed carpet tile further comprises a pre-coat backing layer.
- 5 40. The modular floor covering system of claim 39 wherein said pre-coat backing layer is latex.
41. The modular floor covering system of claim 35 wherein said upper textile surface comprises a yarn and
10 adhesive.
42. The modular floor covering system of claim 41 further comprising a scrim between said upper textile surface and said polyurethane cushion.
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43. The modular floor covering system of claim 35 further comprising a latex pre-coat adhesive between said upper textile surface and said polyurethane cushion.
- 20 44. The modular floor covering system of claim 43 further comprising a reinforcement layer between said upper textile surface and said polyurethane cushion.
45. The modular floor covering system of claim 44 wherein
25 said reinforcement layer is fiberglass.
46. The modular floor covering system of claim 35 further comprising a hot melt adhesive between said upper textile surface and said polyurethane cushion.

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47. The modular floor covering system of claim 46 further comprising a reinforcement layer between said hot melt adhesive and said polyurethane cushion.
- 5 48. The modular floor covering system of claim 47 wherein said reinforcement layer is fiberglass.
49. A modular floor covering system comprising a multiplicity of cushion backed carpet tiles wherein
10 each said carpet tile is interchangeable with at least one other said carpet tile and wherein said carpet tiles can be moved to alter a pattern on said multiplicity of cushion backed carpet tiles.
- 15 50. A modular floor covering system comprising a multiplicity of installed cushion backed carpet tiles on a surface and at least one replacement cushion backed carpet tile not on said surface wherein said replacement cushion backed carpet tile has an
20 identical pattern to at least one of said installed cushion backed carpet tile and wherein said at least one installed cushion backed carpet tile can be replaced by said replacement cushion backed carpet tile.
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51. A cushion backed carpet tile which is suitable for use without adhesive comprising:
an upper textile surface with yarn protruding from a
30 topside thereof;

a polyurethane cushion attached to a bottom side of
said upper textile surface; and
a reinforcement layer between said upper textile
surface and said polyurethane cushion, wherein said
5 cushion backed carpet comprises a plurality of corners
and said corners have a cup and about 3/16" or less
and curl of about 1/16" or less.

10 52. The cushion backed carpet tile of claim 51 further
comprising felt attached to said polyurethane cushion
opposite to said upper textile surface.

53. The cushion backed carpet tile of claim 51 wherein
said reinforcement layer is fiberglass.

15 54. The cushion backed carpet tile of claim 51 wherein
said upper textile surface comprises a yarn and a
primary backing.

20 55. The cushion backed carpet tile of claim 54 wherein
said cushion backed carpet tile further comprises a
pre-coat backing layer.

25 56. The cushion backed carpet tile of claim 55 wherein
said pre-coat backing layer is latex.

57. The cushion backed carpet tile of claim 51 wherein
said upper textile surface comprises a yarn and
adhesive.

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58. The cushion backed carpet tile of claim 57 further comprising a scrim between said upper textile surface and said polyurethane cushion.
- 5 59. The cushion backed carpet tile of claim 51 further comprising a latex pre-coat adhesive between said upper textiles surface and said polyurethane cushion.
- 10 60. The cushion backed carpet tile of claim 59 further comprising felt attached to said polyurethane cushion opposite to said upper textile surface.
61. The cushion backed carpet tile of claim 60 wherein said reinforcement layer is fiberglass.
- 15 62. The cushion backed carpet tile of claim 60 further comprising a hot melt adhesive between said upper textile surface and said polyurethane cushion.
- 20 63. The cushion backed carpet tile of claim 62 further comprising a reinforcement layer between said hot melt adhesive and said polyurethane cushion.
- 25 64. The cushion backed carpet tile of claim 63 wherein said reinforcement layer is fiberglass.
65. A carpet tile suitable for use in adhesive-free installations, said carpet tile comprising:
an upper pile fabric surface;
30 a layer of foam material, said layer of foam material being functionally secured beneath said upper pile

5 fabric surface, and said layer of foam material being adapted to provide cushioning to a force pressing against said upper pile fabric surface, and said carpet tile having a plurality of corners wherein each of said corners has a cup of about $3/16$ " or less and a curl of about $1/16$ " or less.

66. A carpet tile suitable for use in adhesive-free installations, said carpet tile comprising:
10 an upper pile textile surface with a fiber face weight of 12-40 ounces per square yard;
a layer of foam material, said layer of foam material being functionally secured beneath said upper pile textile fabric surface and said foam material has a
15 thickness of 0.10 to 0.25";
said layer of foam material being adapted to provide cushioning to a force pressing against said upper textile surface, and said carpet tile having a plurality of corners wherein each of said corners has
20 a cup of about $3/16$ " or less and a curl of about $1/16$ " or less.

67. The carpet tile of claim 66 further comprising a backing material secured to said foam material
25 opposite to said upper pile textile surface.

68. The carpet tile of claim 67 wherein said backing material is present in an amount of about 2-4 ounces per yard.

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69. The carpet tile of claim 67 wherein said backing material is felt.
70. The carpet tile of claim 67 wherein said backing material comprises about 40-100% by weight polyester and 0-60% by weight polypropylene.
71. The carpet tile of claim 70 further comprising a stabilizing layer between said upper pile textile surface and said layer of foam material.
72. A permeable floor covering system comprising:
a multiplicity of cushion backed carpet tiles wherein each of said multiplicity of cushion backed carpet tiles comprise:
an upper textile surface with yarn protruding from a topside thereof;
a polyurethane cushion attached to a bottom side of said upper textile surface; and
a plurality of corners with each said corner having a cup of about 3/16" or less and curl of about 1/16" or less.
73. A flooring system for installation on a floor, comprising:
an element;
a carpet tile adapted for adhesive free installation over the element and having corners with each corner having a cup of about 3/16" or less and a curl of about 1/16" or less.

74. The flooring system of claim 73 wherein said carpet
5 tile comprises an upper textile surface with yarn
protruding from a topside thereof; and
a polyurethane cushion attached to a bottom side of
said upper textile surface.
- 10 75. Th flooring system of claim 73, wherein said element
is at least one of a sensor, electrical wire, cable or
connection, plumbing, telephone line or connection,
computer cable or connection, computer network cable
or connection, other wire or cable, conduit, access
15 panel, safe, or the like.
76. The flooring system as recited in claim 73, wherein
the item is a sensor for monitoring heat, humidity,
pedestrian traffic, pressure, temperature, or the
20 like.
77. The flooring system as recited in claim 73, wherein
said floor is raised flooring which provides access to
electrical, plumbing, telephone, computer, network, or
internet cables, wires, conduits, or the like.
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78. A modular changeable at will floor system, comprising:
a plurality of adhesive free carpet tiles, wihch can
be removed, reorganized, replaced, changed out, moved
30 from one room to another, moved from one area to
another, update inlays replaced, and the like.